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CUMMINS ENGINE COMPANY, INC.

Engine Data Sheet

Engine Model: KTA-3067 G/GS/GC

Date: **January, 1978**

Bulletin: **3383203 Rev. 1/78**

GENERAL ENGINE DATA

Type	**4 Cycle; 60° Vee; 16 Cylinder Diesel**
Aspiration	**Turbocharged & Aftercooled**
Bore--in. (mm) X stroke--in. (mm)	**6.25 X 6.25 (159 X 159)**
Displacement--in.³ (liter)	**3067 (50.3)**
Compression Ratio	**14.5:1**

		Dry Type Exhaust Manifold lb. (kg)	Water Cooled Exhaust Manifold lb. (kg)
Dry Weight			
Engine only per Installation Diagram	3014198	**10,700 (4858)**	**10,900 (4949)**
Radiator Cooled Engine without Main Generator per Installation Diagram	3014199 **est.**	**12,630 (5734)**	**12,830 (5825)**
Heat Exchanger Cooled Engine without Main Generator per Installation Diagram	3014201 **est.**	**12,175 (5527)**	**12,375 (5618)**
Wet Weight			
Engine only per Installation Diagram	3014198	**11,050 (5017)**	**11,250 (5108)**
Radiator Cooled Engine without Main Generator per Installation Diagram	3014199 **est.**	**13,100 (5947)**	**13,300 (6038)**
Heat Exchanger Cooled Engine without Main Generator per Installation Diagram	3014201 **est.**	**12,340 (5602)**	**12,540 (5693)**

Moment of Inertia of Rotating Components (exclusive of Flywheel) —lb$_m$•ft² (kg•m²)	**117 (4.93)**
Cyclic Speed Variation with FW **6009** Flywheel at 1800 rpm; 1500 rpm	**1/119; 1/81**

ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Block--lb.ft. (N·m)	**3000 (4070)**

EXHAUST SYSTEM

Maximum Back Pressure--in. Hg (mm Hg)	**3 (75)**

AIR INDUCTION SYSTEM

Maximum Intake Air Restriction--With Dirty Filter Element--in. H_2O (mm H_2O)	**25 (635)**
--With Heavy Duty Air Cleaner and Clean Filter Element--in. H_2O (mm H_2O)	**15 (380)**
--With Light Duty Air Cleaner and Clean Filter Element--in. H_2O (mm H_2O)	**10 (250)**
Minimum Dirt Holding Capacity --Heavy Duty Air Cleaner -- g/CFM (g·liter⁻¹·sec.)	**25 (53)**
--Light Duty Air Cleaner -- g/CFM (g·liter⁻¹·sec.)	**3 (6.4)**

COOLING SYSTEM

	Dry Type Exhaust Manifold	Water Cooled Exhaust Manifold
Coolant Capacity -- Engine only--U.S. quart (liter)	**162 (153)**	**176 (166)**
-- With 100°F HX Radiator -- U.S. quart (liter)	**385 (364)**	**399 (377)**
-- With HX Heat Exchanger -- U.S. quart (liter)	**242 (229)**	**256 (242)**

Maximum Coolant Friction Head External to Engine--PSI (kPa)	**5 (34.5)**
Maximum Static Head of Coolant Above Engine Crank Centerline--ft. (meter)	**25 (7.6)**
Maximum Air Restriction on Discharge Side of HX Radiator and Fan--in. H_2O (mm H_2O)	**0.5 (12.7)**
Minimum Raw Water Flow @ 90°F to HX Heat Exchanger--U.S. GPM (liter/min.)	**160 (606)**
Maximum Raw Water Inlet Pressure at HX Heat Exchanger--PSI (kPa)	**100 (689)**
Standard Thermostat (modulating) Range--°F (°C)	**175-195 (80-90)**
Maximum Output Pressure of Engine Water Pump (exclusive of pressure cap)--PSI (kPa)	**41 (283)**
Minimum Pressure Cap--PSI (kPa)	**7 (50)**
Maximum Top Tank Temperature--°F (°C)	**200 (95)**
Minimum Top Tank Temperature--°F (°C)	**160 (70)**
Minimum Fill Rate U.S. GPM (liter/min.)	**5 (20)**
Maximum Initial Fill Time--With Engine Mounted Radiator--min.	**5**
Minimum Coolant Expansion Space--% of System Capacity	**5**
Maximum Deaeration Time--min.	**25**
Drawdown* Must Exceed the Volume Not Filled at Initial Fill	
Minimum Allowable Drawdown*--U.S. quart (liter)	**38 (36)**

*Drawdown does not include expansion space. It is suggested that initial design be at least 10% of system capacity.

LUBRICATION SYSTEM

Oil Pressure @ Idle--PSI (kPa)	**20 (140) Minimum**
@ Rated Speed--PSI (kPa)	**45-70 (310-483)**
Maximum Oil Temperature --°F (°C)	**230 (110)**
Maximum Oil Consumption--U.S. quart/hr. (liter/hr.)	**0.75 (0.71)**
By-Pass Filter Size--in.³ (liter)	**2 X 750 (2 X 12.3)**
By-Pass Filter Capacity--U.S. gal. (liter)	**2 X 2.9 (2 X 11)**
Oil Capacity (Oil Pan Option No. OP**6004**); High-Low--U.S. gal. (liter)	**40-32 (150-120)**
Total System Capacity (including by-pass filter) --U.S. gal. (liter)	**51 (193)**
Angularity of OP **6004** Oil Pan --Front Down	**30°**
--Front Up	**30°**
--Side to Side	**30°**

FUEL SYSTEM

Type Injection System	**Direct Injection (Cummins PT)**
Maximum Restriction to PT Fuel Injection Pump -- With Clean Fuel Filter--in. Hg (mm Hg)	**4.0 (100)**
-- With Dirty Fuel Filter--in. Hg (mm Hg)	**8.0 (200)**
Maximum Injector Return Line Restriction--in. Hg (mm Hg)	**4.0 (100)**

CARP. Nº 3 fs.

REF.: Equipos Auxiliares III

CTRICAL SYSTEM

attery Charging System, Negative Ground–Volt; Ampere		24;30
Cranking Motor (Heavy Duty, Positive Engagement)–Volt		24
Maximum Allowable Resistance of Cranking Circuit–Ohm		0.002
Minimum Recommended Battery Capacity		
Cold Soak @ 50°F (10°C) and above–0°F CCA		1280
Cold Soak @ 32°F to 50°F (0°C to 10°C)–0°F CCA		1800
Cold Soak @ 0°F to 32°F (–18°C to 0°C)–0°F CCA		1800
Cranking Motor Current Based on Lube Oil Viscosity per Bulletin 3379002		
Breakaway Current at Zero RPM @ 50°F (10°C)–Amp	(estimated)	1950
Breakaway Current at Zero RPM @ 32°F (0°C)–Amp	(estimated)	1890
Breakaway Current at Zero RPM @ 0°F (–18°C)–Amp	(estimated)	2480
Cranking Current @ 50°F (10°C)–Amp	(estimated)	1080
Cranking Current @ 32°F (0°C)–Amp	(estimated)	1050
Cranking Current @ 0°F (–18°C)–Amp	(estimated)	1380

PERFORMANCE DATA

Steady-State Speed Stability Band at any Constant Load–%	± 0.25
Maximum Overspeed Capability–RPM	2700
Estimated Free Field Sound Pressure Level @ 3 ft.–dBA Excludes Noise from Intake, Exhaust, Cooling System & Driven Components.	109

All data is based on operation under SAE Standard J816b conditions of 500 ft. (150m) altitude (29.00 in. [736mm] Hg dry barometer), 85°F (29°C) intake air temperature and 0.38 in. (9.6mm) Hg water vapor pressure, using No. 2 diesel or a fuel corresponding to ASTM D2. Data is based on the engine operating with fuel system, water pump and lubricating oil pump; not included are battery charging alternator, fan, optional equipment and driven components.

Chart below reflects data based on following variables at conditions of rated power:

Coolant Temperature–°F (°C)	185 (85)	Air Intake Restriction–in. H_2O (mm H_2O)	10 (250)
Water Inlet Pressure–PSI (kPa)	7 (50)	Air Intake Temperature–°F (°C)	85 (30)
Water Pressure in Engine Block–PSI (kPa)	40 (275)	Exhaust Restriction–in. Hg (mm Hg)	2.0 (50)

	STAND-BY		PRIME POWER	
	60 Hz	50 Hz	60 Hz	50 Hz
Engine Speed–RPM	1800	1500	1800	1500
Gross Engine Power Output–BHP (kW)	1490 (1112)	1240 (925)	1350 (1007)	1125 (839)
Brake Mean Effective Pressure–PSI (kPa)	214 (1475)	213 (1468)	194 (1337)	194 (1337)
Piston Speed–ft./min. (m/s)	1875 (9.5)	1562 (7.9)	1875 (9.5)	1562 (7.9)
Maximum Regenerative Power Absorption Capacity–kW	207	140	207	140
Engine Water Flow–U.S. GPM (liter/s)	549 (35)	457 (29)	549 (35)	457 (29)
Engine Data with Dry Type Exhaust Manifold				
Net Engine Power With				
100°F HX Radiator and Fan–BHP (kW)	1450 (1082)	1217 (908)	1310 (977)	1102 (822)
125°F HX Radiator and Fan–BHP (kW)	N.A.	N.A.	N.A.	N.A.
Intake Air Flow–CFM (liter/s)	3300 (1557)	2490 (1175)	3125 (1475)	2315 (1093)
Exhaust Gas Temperature–°F (°C)	1020 (549)	1015 (546)	925 (496)	920 (493)
Exhaust Gas Flow–CFM (liter/s)	9000 (4248)	6750 (3186)	7950 (3752)	5900 (2784)
Radiated Heat to Ambient–BTU/min. (kW) est.	12,900 (227)	10,700 (188)	11,800 (207)	10,000 (176)
Heat Rejection to Coolant–BTU/min. (kW) est.	38,740 (681)	32,240 (567)	35,100 (617)	29,250 (514)
Heat Rejection to Exhaust–BTU/min. (kW) est.	55,500 (976)	41,700 (733)	47,250 (831)	35,000 (615)
Cooling Fan Air Flow with				
100°F HX Radiator and Fan–CFM (liter/s)	65,000 (30,677)	53,000 (25,013)	65,000 (30,677)	53,000 (25,013)
125°F HX Radiator and Fan–CFM (liter/s)	N.A.	N.A.	N.A.	N.A.
Engine Data with Water Cooled Exhaust Manifold				
Net Engine Power With				
100°F HX Radiator and Fan–BHP (kW)	N.A.	N.A.	N.A.	N.A.
125°F HX Radiator and Fan–BHP (kW)	N.A.	N.A.	N.A.	N.A.
Intake Air Flow–CFM (liter/s) est.	3135 (1480)	2365 (1116)	2970 (1402)	2200 (1038)
Exhaust Gas Temperature – °F (°C) est.	990 (532)	985 (529)	900 (482)	890 (477)
Exhaust Gas Flow–CFM (liter/s) est.	8350 (3941)	6300 (2973)	7400 (3492)	5500 (2596)
Radiated Heat to Ambient–BTU/min. (kW) est.	9700 (171)	8000 (141)	8850 (156)	7400 (130)
Heat Rejection to Coolant–BTU/min. (kW) est.	49,170 (864)	40,920 (719)	44,550 (783)	37,125 (653)
Heat Rejection to Exhaust–BTU/min. (kW) est.	51,100 (898)	38,300 (673)	43,600 (766)	32,000 (563)
Cooling Fan Air Flow With				
100°F HX Radiator and Fan–CFM (liter/s)	N.A.	N.A.	N.A.	N.A.
125°F HX Radiator and Fan–CFM (liter/s)	N.A.	N.A.	N.A.	N.A.

REFERENCE INFORMATION

Performance Curve	P–3849–A
Wiring Diagram	194076
Installation Diagram	
–Engine Only	3014198
–With Radiator	3014199
–With Heat Exchanger	3014201
–For Remote Cooling	3014200

Engine Model: KTA–3067 G/GS/GC
Data Sheet: DS–3849–A
Date:January, 1978
Bulletin No: 3383203 Rev. 1/78

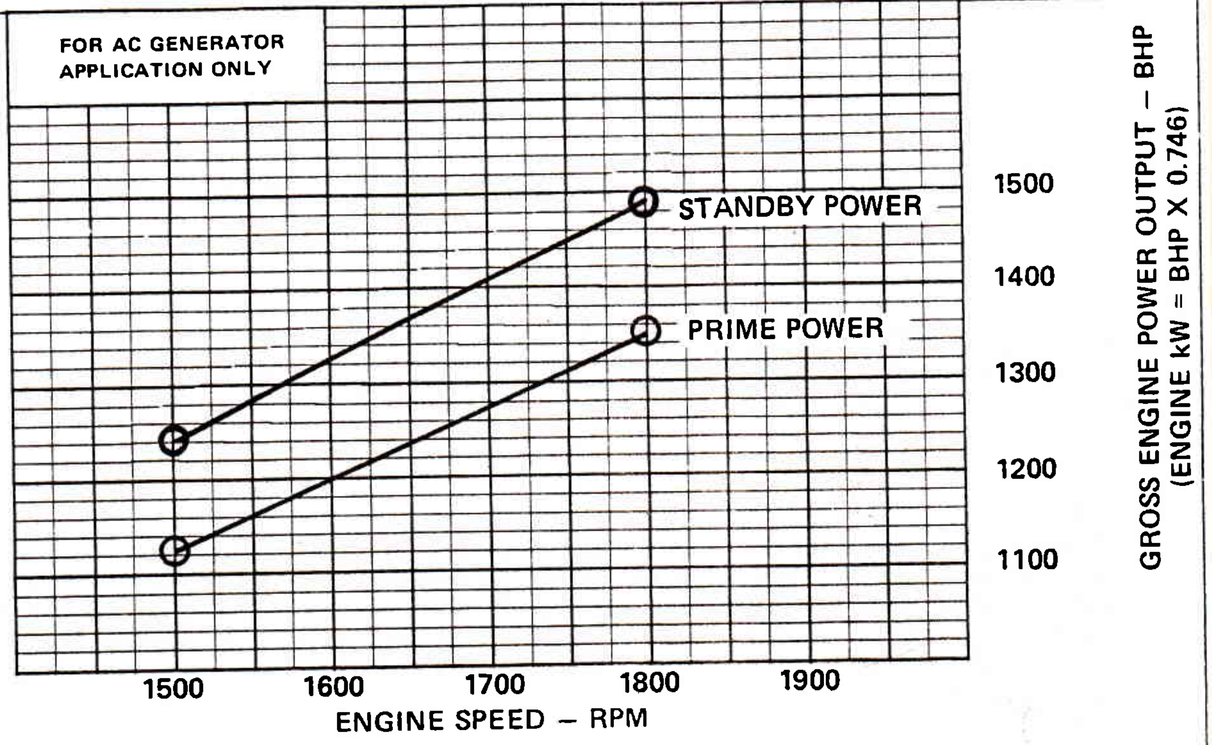
CUMMINS ENGINE COMPANY, INC. Columbus, Indiana 47201 ENGINE PERFORMANCE CURVE	ENGINE MODEL: KTA–3067 G/GS/GC	CURVE NUMBER: P–3849 –A	
	ASPIRATION: Turbocharged & Aftercooled	DATE: 2/2/78	BY: M.L.S.

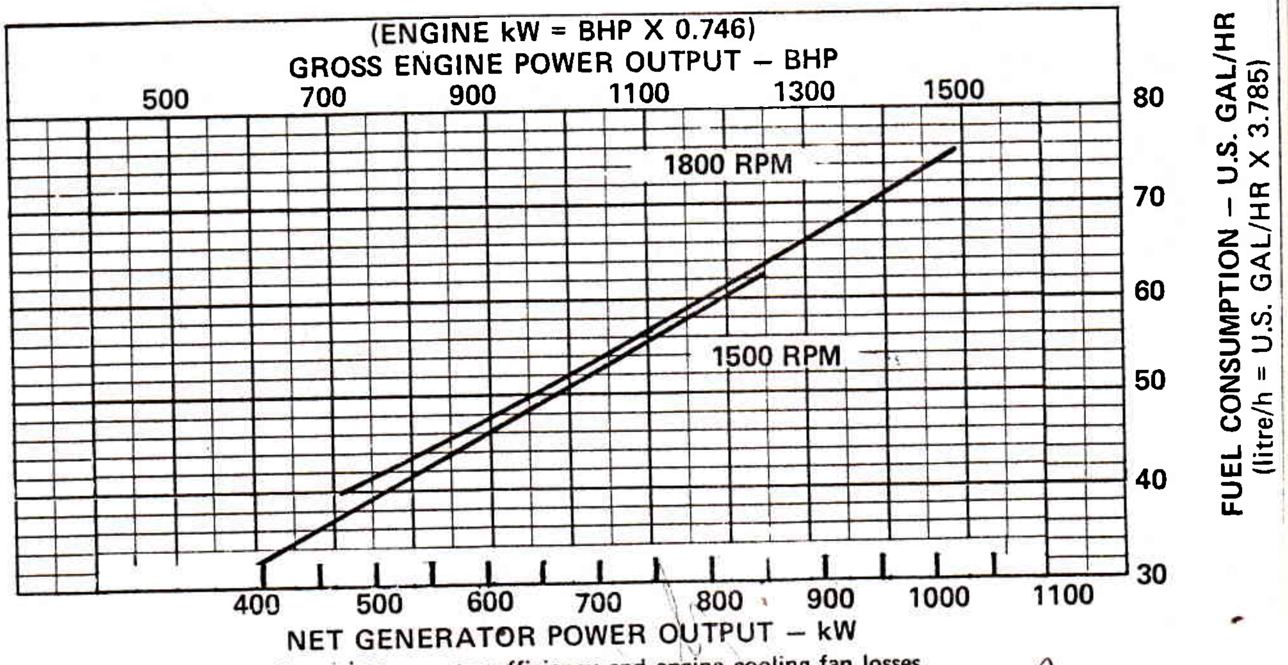
DISPLACEMENT: 3067 in^3 (50.3 litre) NO. OF CYLINDERS: 16

RATING:
HP (kW) @ RPM
1490 (1112) @ 1800

BORE: 6.25 in (159 mm) STROKE: 6.25 in (159 mm)

Power output curves are based on the engine operating with fuel system, water pump and lubricating oil pump; not included are battery charging alternator, fan, optional equipment and driven components.





Based on 94.5% generator efficiency and engine cooling fan losses of 40 HP at 1800 RPM or 23 HP at 1500 rpm.

Curves shown above represent engine performance capabilities at SAE standard J816b conditions of 500 ft. (150m) altitude (29.00" Hg [736mm Hg] dry barometer), 85°F (29°C) air intake temperature, and 0.38" Hg (9.6mm Hg) water vapor pressure with No. 2 diesel fuel. Curves shown above also represent engine performance capabilities at British Standard BS649:1958 conditions of 500 ft. (150m) altitude and 85°F (29°C) air intake temperature and at Internal Combustion Engines General Application Standard DIN 6270 conditions of 736 torr barometric pressure and 20°C air intake temperature.

The fuel consumption data is based on a specific gravity of No. 2 diesel fuel of 7.00 lb./gal. (0.84 kg/liter).

See reverse side for application rating guidelines.

PRELIMINARY R.W. Dugan

STANDARDS DEPT.

Form 4739-0577R

RATING GUIDELINES

These guidelines are for general purpose use in applying engines to AC Generator – Set applications.

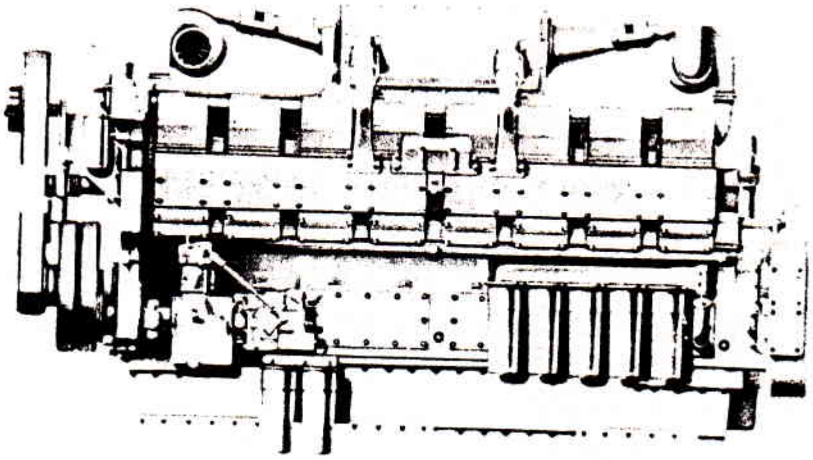
STANDBY RATING is applicable for supplying electric power in the event of normal utility power failure. No overload capability is available for this rating. This rating may be used for continuous service for as long as the emergency may last. This rating conforms with or exceeds the BS 649:1958 overload rating and DIN "B" 6270.

PRIME POWER RATING is applicable for supplying electric power in lieu of commercially purchased power. Intermittent overloads up to the Standby Rating are allowable. This rating may be used for continuous service in commercial applications and it conforms with BS 649:1958 and DIN "A" 6270 for generator set applications.

OPERATION AT ELEVATED TEMPERATURE AND ALTITUDE: The engine is fueled for the STANDBY POWER RATING and may be operated without changing the fuel setting up to 5000 ft. (1500m) altitude and 100°F (38°C) ambient temperature. For sustained operation at higher aititudes and temperatures the fuel rate of the engines should be adjusted to limit performance by 4% per 1,000 ft. (300m) above 5,000 ft. (1500m) and 1% per 10°F above 100°F (2% per 11°C above 38°C). The engine may be operated at the PRIME POWER RATING up to 7500 ft. (2250m) altitude and 100°F (38°C) ambient temperature without reducing the fuel setting unless an overload capability is required. Site deration should be done using these deration factors.

Cummins Diesel

KTA-3067-G



Especificaciones

	Métricas	
Potencia del Motor a 1800 RPM		
Potencia de Emergencia	1 112 kW*	1490 bhp*
Potencia de Generación	1 007 kW*	1350 bhp*
Potencia del Motor a 1500 RPM		
Potencia de Emergencia	925 kW*	1240 bhp*
Potencia de Generación	839 kW*	1125 bhp*

*Se refiere a la potencia bruta disponible del motor, no del generador.

Número de Cilindros	16	16
Diámetro y Carrera	159 x 159 mm	6-1 4 x 6-1 4 pulg
Cilindrada	50,3 l	3067 pulg cúb
Tiempos del Motor	4	4
†Cap. Sistema Aceite Lub.	193 l	51 gal US
Capacidad Refrigerante	153 l	40,5 gal US
Peso Neto con Accesorios Std., Seco	4 860 kg	10.700 lbs
Medidas Totales Aprox.		
Ancho	1 270 mm	50 pulg
Largo	2 769 mm	109 pulg
Altura	1 651 mm	65 pulg

†El filtro con derivación se incluye en el total.

Características de Diseño

Arbol de Levas: Dos árboles de levas controlan con precision la regulación de las válvulas e inyectores. Los lóbulos estan endurecidos por inducción para larga duracion. Dieciseis cojinetes tipo de precision reemplazables de 76 mm (3.0 pulg) de diametro.

Bielas: Forjadas en troquel, longitud de 290 mm (11.4 pulg) de centro a centro en la seccion de viga en "I". Con perforacion interna para lubricación a presion del pasador de pistón. El agujero de piston tipo cónico reduce las cargas unitarias.

Bloque de Cilindros: Hierro fundido de aleacion con camisas reemplazables tipo humedo. Soporte de perno cruzado a la tapa del cojinete principal, proporciona refuerzo y estabilidad adicionales.

Camisas de Cilindros: Camisas tipo húmedo, reemplazables, disipan el calor con más rapidez que las de tipo seco y se pueden reemplazar fácilmente sin necesitar de rectificar el bloque.

Cigueñal: Forjado de acero de alta resistencia tensil con filetes endurecidos por inducción. Totalmente contrapesado y equilibrado.

Cojinetes: Reemplazables, tipo de precisión con respaldos de acero. Nueve cojinetes principales, de 165 mm (6.5 pulg) de diámetro. Cojinetes de bielas de 108 mm (4.25 pulg) de diámetro.

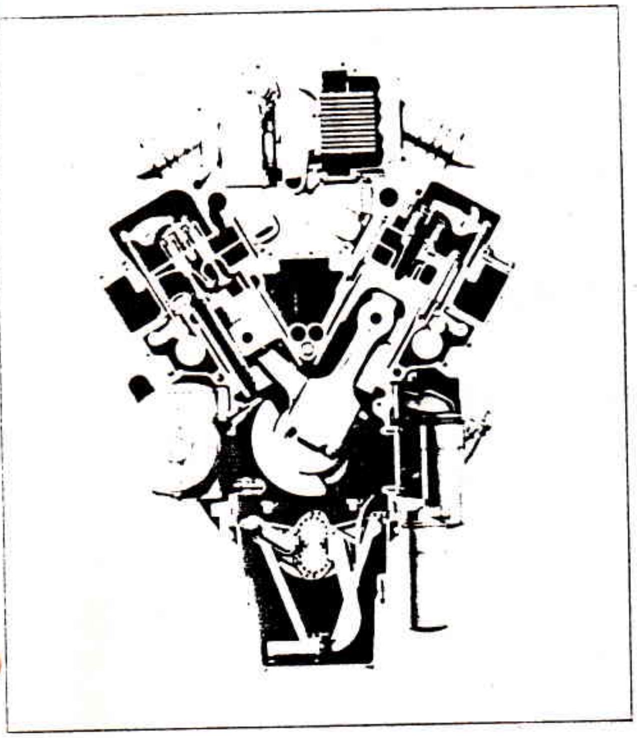
Culatas de Cilindros: Aleación de hierro fundido. Una culata por cilindro. Asientos de válvulas son insertos reemplazables resistentes a la corrosión. Las guias de válvulas y guias de crucetas son insertos reemplazables.

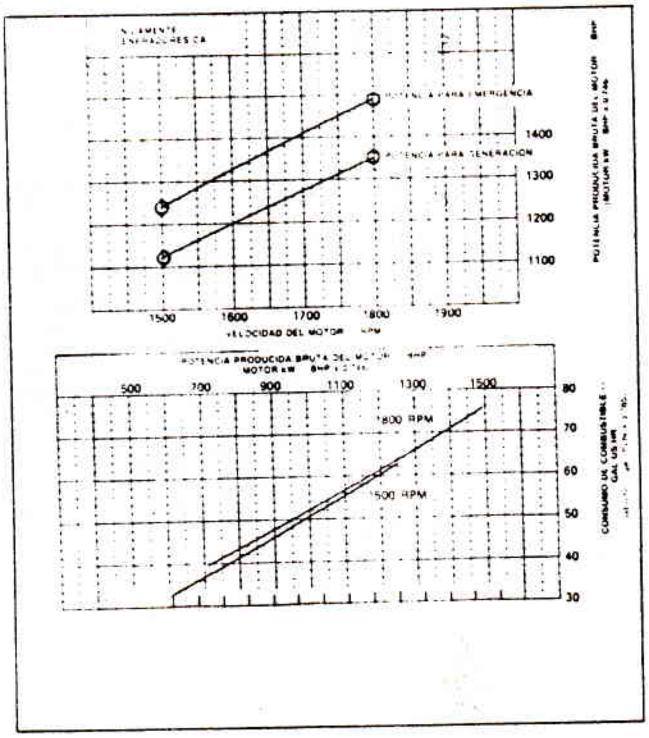
Impulsores de Válvulas e Inyectores: Endurecidos por inducción, tipo de rodillos para larga duración del árbol y de los impulsores.

Lubricación: La bomba de engranes de gran capacidad provee lubricación a presión a todos los cojinetes y suministro de aceite para la refrigeración de los pistones. Todos los conductos para lubricación están taladrados en el bloque y culatas. El enfriador de aceite, filtros de flujo pleno y filtros con derivación mantienen la condicion del aceite y prolongan al máximo la duración del motor y aceite.

Padadores de Pistón: Totalmente flotantes, de acero tubular retenidos por anillos de resorte. Diámetro de 61 mm (2.4 pulg).

Las Caracteristicas de Diseño continuan al reverso de la pagina.





Características de Diseño, Continuación

Pistones: Aleacion de aluminio, pulido excéntrico con forma combada para compensar la expansión termica, aseguran un ajuste preciso a temperaturas de operacion. Acabado CeCorr™ de la falda ranurada provee lubricacion superior. Enfriados por aceite para disipacion rapida del calor. Dos anillos de compresion y uno de control de aceite.

Postenfriador: De gran capacidad, resulta en aire de admision más frio y denso para una combustion mas eficiente y reduce los esfuerzos internos prolongando la duracion. El postenfriador esta situado en el sistema refrigerante del motor, eliminando la necesidad de tuberias especiales.

Sistema de Combustible: Sistema Cummins PT™ exclusivo de baja temperatura con bomba de compensación de desgaste y gobernador integral doble tipo contrapesos. Inyectores de combustible accionados desde el arbol de levas proporcionan regulacion y dosificacion precisas. Los conductos de combustible estan taladrados en las culatas de cilindros. Filtro de combustible tipo rosca.

Sistema de Refrigeración: Bomba del agua tipo centrifuga, impulsada por engranes. Pasajes del agua de gran volumen proporcionan flujo de agua uniforme alrededor de las camisas de cilindros, valvulas e inyectores. Cuatro termostatos moduladores en derivación regulan la temperatura. Anticorrosivo tipo rosca protege contra la corrosión y herrumbre, controla la acidez y elimina las impurezas.

Tren de Engranes: Los engranes de sincronización y engranajes del impulsor de accesorios son engranajes helicoidales endurecidos por inducción impulsados desde el cigüeñal y situados delante del bloque.

Turbocargador: Dos turbocargadores AiResearch impulsados por gas del escape instalados en la parte superior del motor. La turbocarga provee más potencia, mejora la economia de combustible, compensación de altura y niveles de ruido y humo mas bajos.

Válvulas: Dos válvulas de admisión y escape tipo de vastago de 56 mm (2.22 pulg) de diametro. Cara resistente al desgaste en las valvulas de escape.

Rendimiento

El caballaje y consumo de combustible indicado en las curvas representa el rendimiento máximo en las condiciones de la norma SAE J816b, de 150 metros (500 pies) de altura (presión barométrica de 736 mm [29.00 pulg] de mercurio) temperatura del aire de admision de 29 C (85 F) y una presión de vapor de agua de 9,6 mm (0,38 pulg) de mercurio.

Las curvas representan el rendimiento del motor con el sistema de combustible, bomba para agua y bomba de lubricacante; no se incluyen el alternador, ventilador, ni equipo opcional. Las curvas representan el rendimiento con combustible diesel No. 2 ó un combustible correspondiente a la norma ASTM D2.

El motor puede funcionar a alturas hasta de 1500 metros (5000 pies) sin ajustes externos y sin despotenciarlo.

Normas para Clasificación

La Potencia para Emergencia se aplica para el suministro de energia eléctrica en caso de falla del suministro de la red. Para esta clasificación, no hay capacidad de sobrecarga. Esta clasificación se puede usar para servicio continuo mientras persista la emergencia. Esta de acuerdo con la norma inglesa BS 649 1958 para sobrecarga y con DIN "B" 6270.

La Potencia para Generación se aplica para el suministro continuo de energia sin uso de energía de la red. Se permiten sobrecargas intermitentes hasta llegar a la Potencia de Emergencia. Esta clasificación se puede usar para servicio continuo en aplicaciones comerciales y cumple con las normas BS 649 1958 y DIN "A" 6270 para equipos generadores.

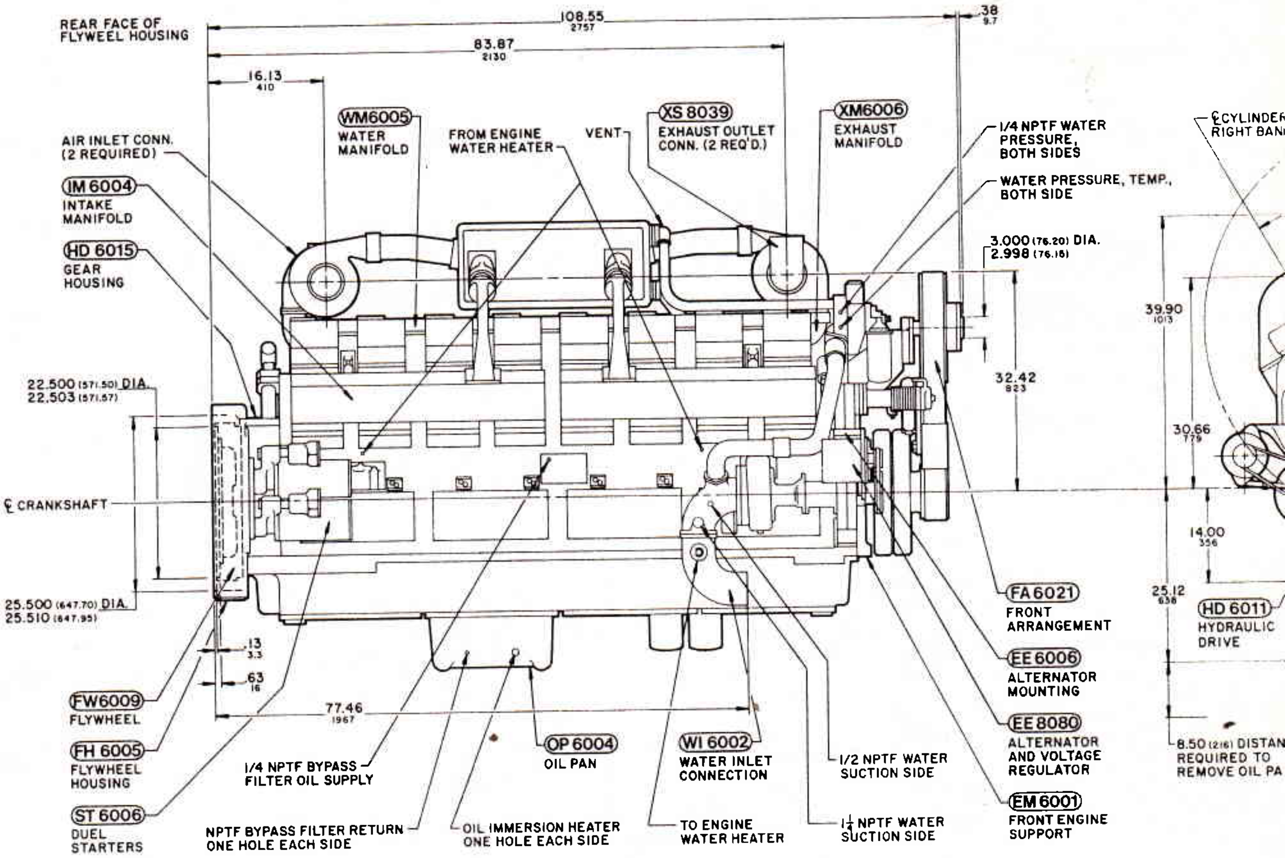
Cummins siempre ha sido un pionero en el mejoramiento de productos. Por lo tanto, las especificaciones pueden cambiar sin previo aviso. Las ilustraciones pueden incluir equipo opcional.

Cummins Engine Company, Inc., Columbus, Indiana 47201

DRAWING NO.
3014198

GEBR. PAPROTTKA GMBH
HAMBURG

AGGREGATEBAU


108.55
2757
.38
9.7
83.87
2130
16.13
410
REAR FACE OF FLYWEEL HOUSING
AIR INLET CONN. (2 REQUIRED)
IM 6004 INTAKE MANIFOLD
HD 6015 GEAR HOUSING
WM6005 WATER MANIFOLD
FROM ENGINE WATER HEATER
VENT
XS 8039 EXHAUST OUTLET CONN. (2 REQ'D.)
XM6006 EXHAUST MANIFOLD
1/4 NPTF WATER PRESSURE, BOTH SIDES
WATER PRESSURE, TEMP., BOTH SIDE
3.000 (76.20) DIA.
2.998 (76.15)
32.42
823
39.90
1013
30.66
779
14.00
356
25.12
638
℄ CYLINDER RIGHT BAN
22.500 (571.50) DIA.
22.503 (571.57)
℄ CRANKSHAFT
25.500 (647.70) DIA.
25.510 (647.95)
.13
3.3
.63
16
77.46
1967
FW6009 FLYWHEEL
FH 6005 FLYWHEEL HOUSING
ST 6006 DUEL STARTERS
1/4 NPTF BYPASS FILTER OIL SUPPLY
NPTF BYPASS FILTER RETURN ONE HOLE EACH SIDE
OIL IMMERSION HEATER ONE HOLE EACH SIDE
OP 6004 OIL PAN
WI 6002 WATER INLET CONNECTION
TO ENGINE WATER HEATER
1/2 NPTF WATER SUCTION SIDE
1¼ NPTF WATER SUCTION SIDE
FA 6021 FRONT ARRANGEMENT
EE 6006 ALTERNATOR MOUNTING
EE 8080 ALTERNATOR AND VOLTAGE REGULATOR
EM 6001 FRONT ENGINE SUPPORT
HD 6011 HYDRAULIC DRIVE
8.50 (216) DISTAN REQUIRED TO REMOVE OIL PA

THIRD ANGLE PROJECTION

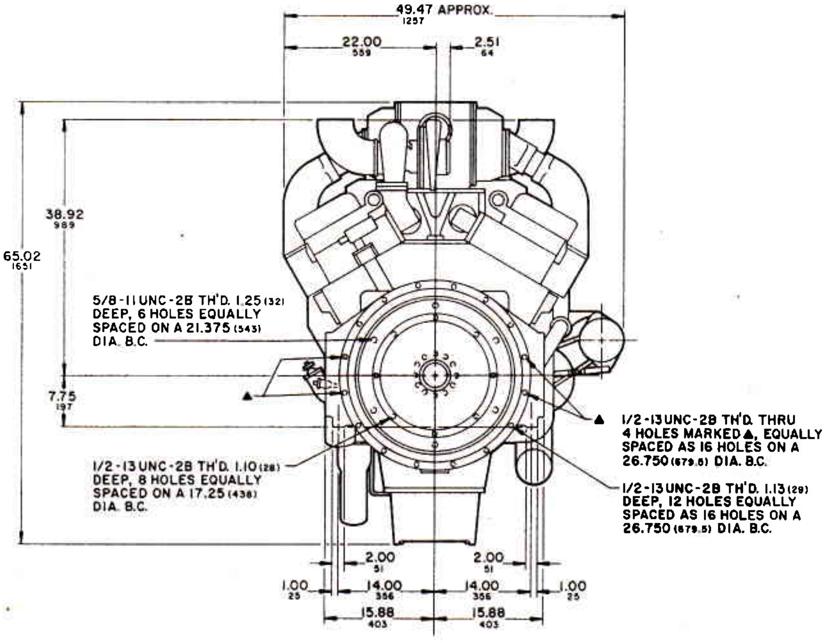
MILLIMETERS

INSTALLATION DIAGRAM

APPROVED | DATE | SIZE | CODE IDENT NO. | DRAWING NO.

KTA-3067

REVISIONS					
REV.	DESCRIPTION	MFR DATE	APPD	DATE	


49.47 APPROX. 1257
22.00 559
2.51 64
38.92 989
65.02 1651
7.75 197
5/8-11 UNC-2B TH'D. 1.25 (32) DEEP, 6 HOLES EQUALLY SPACED ON A 21.375 (543) DIA. B.C.
1/2-13 UNC-2B TH'D. 1.10 (28) DEEP, 8 HOLES EQUALLY SPACED ON A 17.25 (438) DIA. B.C.
▲ 1/2-13 UNC-2B TH'D. THRU 4 HOLES MARKED ▲, EQUALLY SPACED AS 16 HOLES ON A 26.750 (679.5) DIA. B.C.
1/2-13 UNC-2B TH'D. 1.13 (29) DEEP, 12 HOLES EQUALLY SPACED AS 16 HOLES ON A 26.750 (679.5) DIA. B.C.
2.00 51
2.00 51
1.00 25
14.00 356
14.00 356
1.00 25
15.88 403
15.88 403

ENGINE SERVICE CONNECTIONS

FUEL INLET CONNECTION: $1\frac{5}{16}$-12 UNF-2A TH'D. WITH 37° TIP

FUEL RETURN TO TANK: 7/8-14 UNF-2A TH'D. WITH 37° TIP

OIL DRAIN: 1-18 NS-3B TH'D. (2-REQ'D.)

CYLINDER BLOCK DRAIN: (2-REQ'D. EACH SIDE)

TACHOMETER TAKE OFF: 7/8-18 NS TH'D. WITH .187 (4.75) DRIVE TIP 1/2 ENGINE SPEED, CLOCKWISE ROTATION

WATER INLET CONNECTION: 5.00 (127) O.D.

WATER OUTLET CONNECTION: 3.00 (76) O.D. (2-REQ'D.)

AIR INLET CONNECTION: 5.50 (139) O.D. (2-REQ'D.)

EXHAUST OUTLET CONNECTION: 5.00 (127) O.D. (2-REQ'D.)

LUBE OIL PRESSURE GAUGE: 1/8 NPTF

LUBE OIL TEMPERATURE GAUGE: 1/4 NPTF

WATER TEMPERATURE GAUGE: 1/2 NPTF

SAFETY CONTROLS:
LOW LUBE OIL PRESSURE: 1/8 NPTF
HIGH WATER TEMPERATURE: 1/2 NPTF
LOW WATER TEMPERATURE: 1/2 NPTF

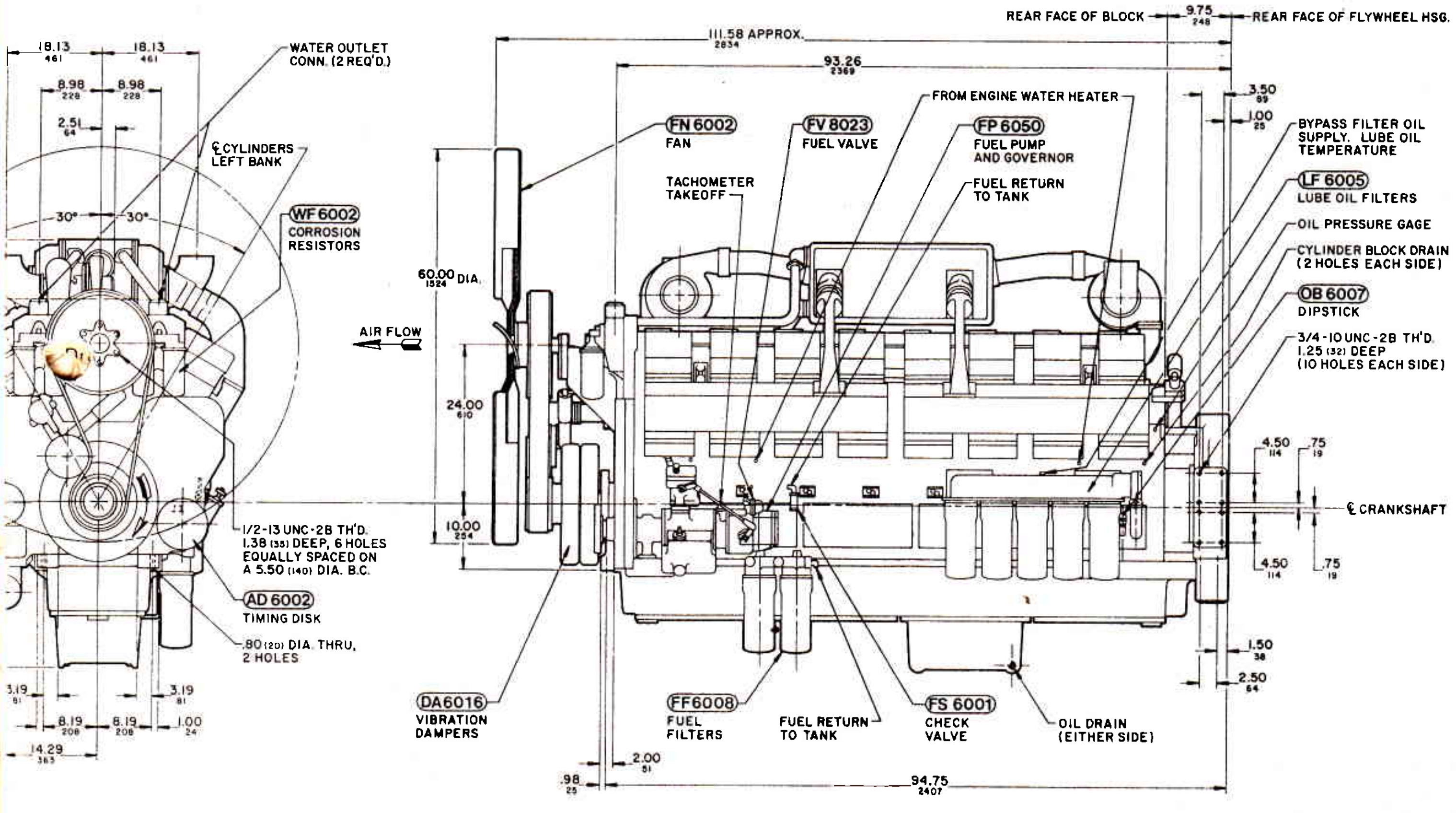
OIL IMMERSION HEATER: 1" NPTF

ENGINE WATER HEATER (2-REQ'D.):
TO ENGINE: 1" NPTF
TO HEATER: $1\frac{1}{4}$ NPTF

BY PASS FILTER: 1/4 NPTF

VENT LINE CONNECTION: #6 (2-REQ'D.)

WATER MAKEUP LINE: $1\frac{1}{2}$ I.D.



FAN TO FLYWHEEL

NOTE: ALL DIMENSIONS ARE IN INCHES AND MILLIMETERS

DO NOT SCALE THIS DRAWING

THIS DRAWING (AND THE DATA SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE USED, DISCLOSED TO OTHERS OR REPRODUCED FOR ANY PURPOSE EXCEPT FOR QUOTATION TO OR ORDER BY CUMMINS ENGINE COMPANY, INC., AND/OR

DWN	8/3/78		**Cummins**
CHD			ITEM NAME KTA-3067-G
REV			
TRC'D			IDENTIFIER INSTALLATION DIAGRAM
APPD			
APPD			
APPD			
APPROVED		DATE	SIZE / CODE IDENT. NO. / DRAWING NO.

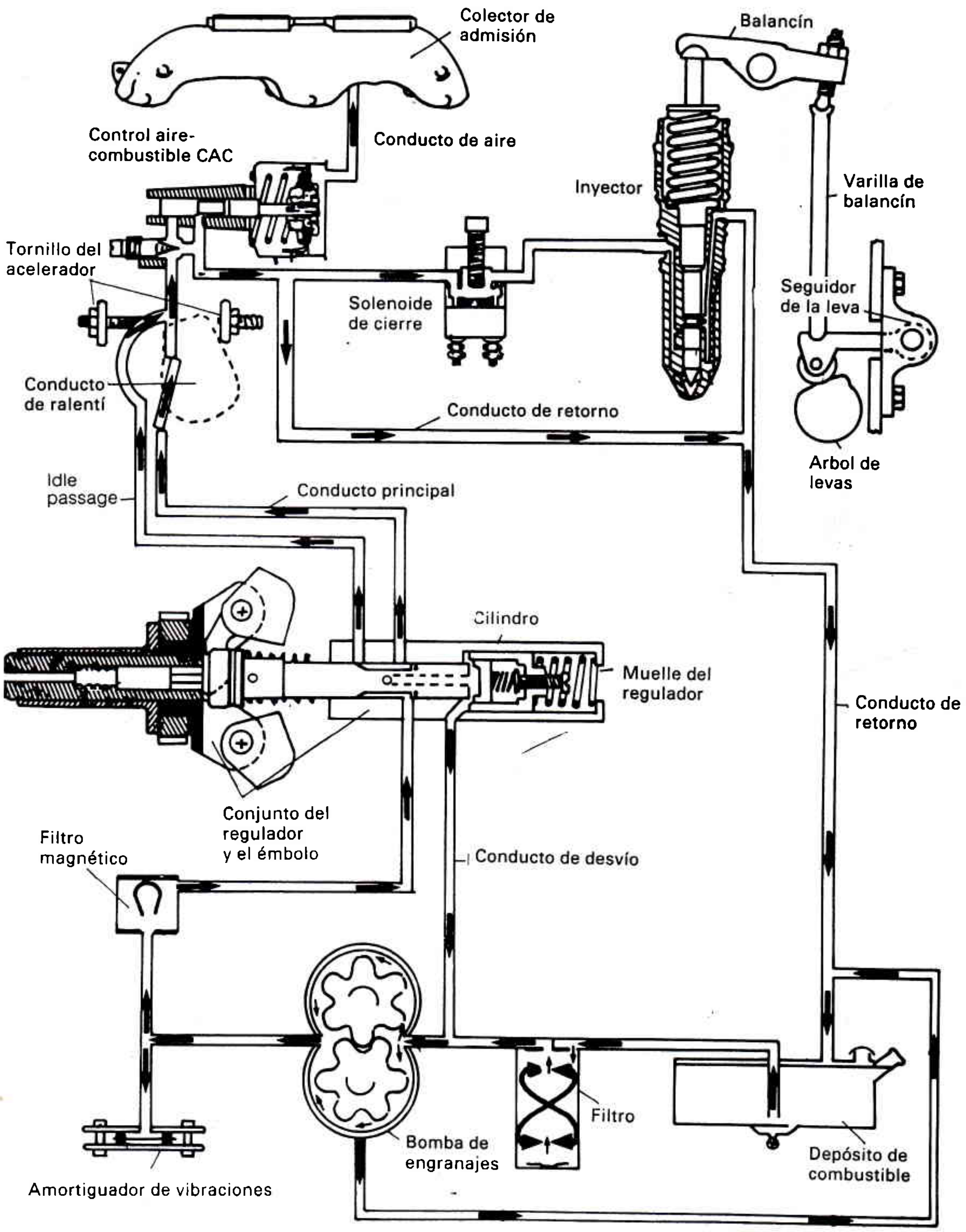


Fig. 21.2 *Diagrama esquemático del sistema de inyección Cummins PT (con AFC instalada).*

Operating control

for GP - Diesel - Generating Set 950 kVA

Main data:

- Order No. BN 8888/81
- Engine Type KTA 3067 G
- Engine No. 33106210

Alternatortype 3 SBE V 456-4

Alternator Make VEM

Alternator No. 3082 00 200

Alternator Efficiency ____ % at rated load

Rated Speed 1500 R. P. M.

Generating Set Rated Output 950 KVA according to DIN 6270

Generating Set Rated Output at Site ____ KVA

at ____ mm Hg mercury barometric pressure

and ____ °C ambient air temperature

Admissible Overload ____ % for one hour within 6 hours

Rated Voltage 400/231 V

Rated Current 1098 A = 1.0/1372 A ≰ 0.8

Testrun - Operation Control

Order No. BN 8888/81

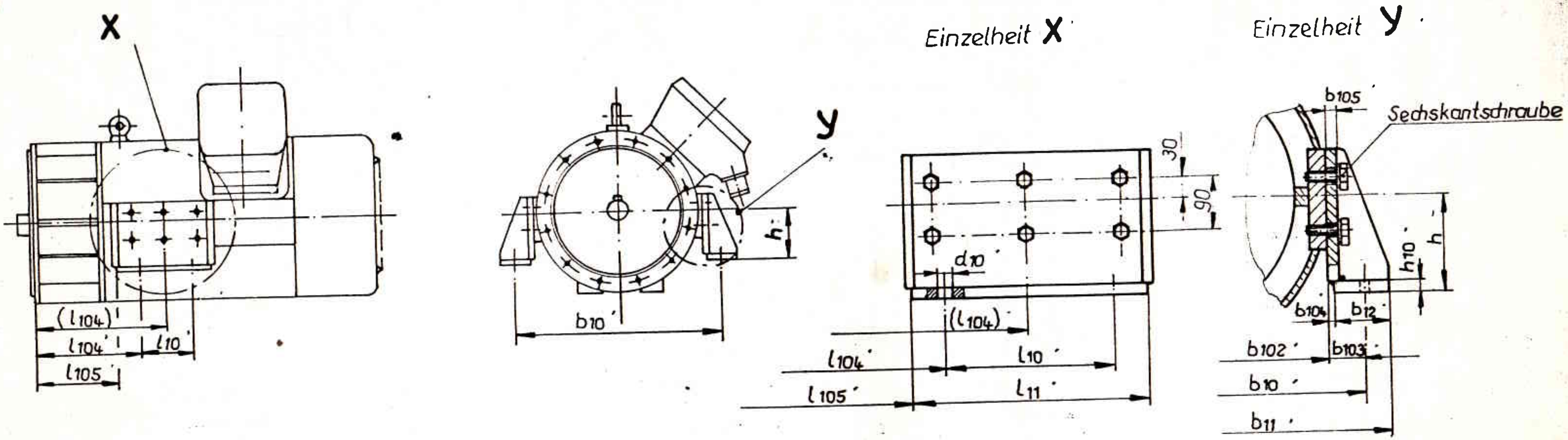
Engine Type KTA 3067 G

Engine No. 3310 62 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
					Electric Load					Diesel-Data									Battery				Special Data
							Output						Raw water Temperatur										
Control Date	Operating hour counter h	Barometric Pressure mm Hg	Temperature at Site °C	Frequency cps	Voltage V	Current A	kVA	kW	Power factor cos phi	Lubricating oil pressure kp·cm²	Load %	Engine (water) temperature °C	Inlet °C	Outlet °C	Suction Air Temperature °C	Exhaust Temperature °C	Measurement of Lub Oil Lubricating Oil change	Cooling water Checket	Acid chacked	Charging current A	Engine preheating °C	Fuel storage checked	about : Oilchange, Oil consu tion, Adding of anti- freezers, Fuel consu tion, repairs, Contro automatic a. s. o.
14.4.	15.00		15	51.5	400	0					0												
1982				50	400	1098					100												
				51.5	400	0					0												
				49.9	400	1207					110												
				50	400	1098					100												
				50.3	400	824					75												
				50:7	400	549					50												
				51	400	275					25												
	16.00			51,5	400	0				4,8	0	80											

Constancy of speed at sudden full discharge:	3%
Regulation speed at sudden full discharge:	4 sec.
Constancy of voltage at sudden full discharge:	0 Volt
Flickerfree light operation checked:	yes
Automatic Generator switchboard checked:	yes and o.k.

Ing. Aresqueta C. H. Terra.

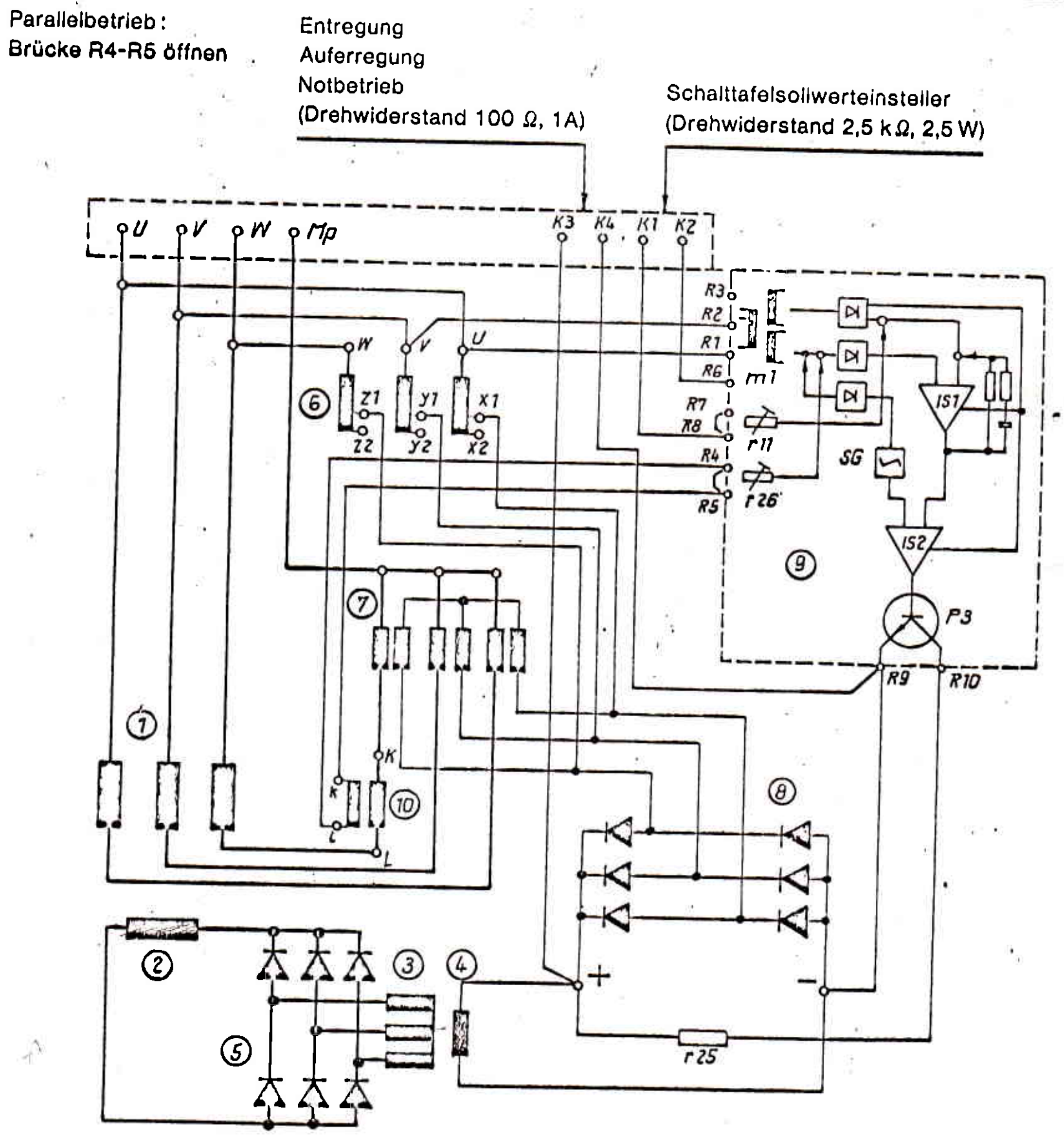


Baugröße		b10	b11	b12	b102	b103	b104	b105	h	h10	d10	l10	l11	l104	l105	Befestigungs-löcher je Fuß	Sechskantschr. TGL 0-933
3SBE	285-4 286-4	700	790	90	600	50	5	12	125	12	24	–	238	425	306	1	M12 × 35
3SBE	315-4 316-4	820	906		710	55	8	16		20	28	280	400	385	325	2	M16 × 50
3SBE	355-4 356-4																
3SBEV	405-4 406-4 407-4	970	1066	100	850	60			185		35			460	400		
3SBEV	455-4 456-4	1020	1116		900							630	740				M20 × 50

VEB Elektromotorenwerk Dessau	Gez. 20.9.78 a.d.M.	Gepr. h/h	**Fußabmessungen für Synchrongeneratoren** in Bauform M 111/301 (B5/B20)	Zchngs.-Nr. **093-450:554(4)**
	Ersatz für:	Ersetzt durch		

[illegible]
HAMBURG
D-2000 HAMBURG 55 · POSTFACH 770
AGGREGATEBAU

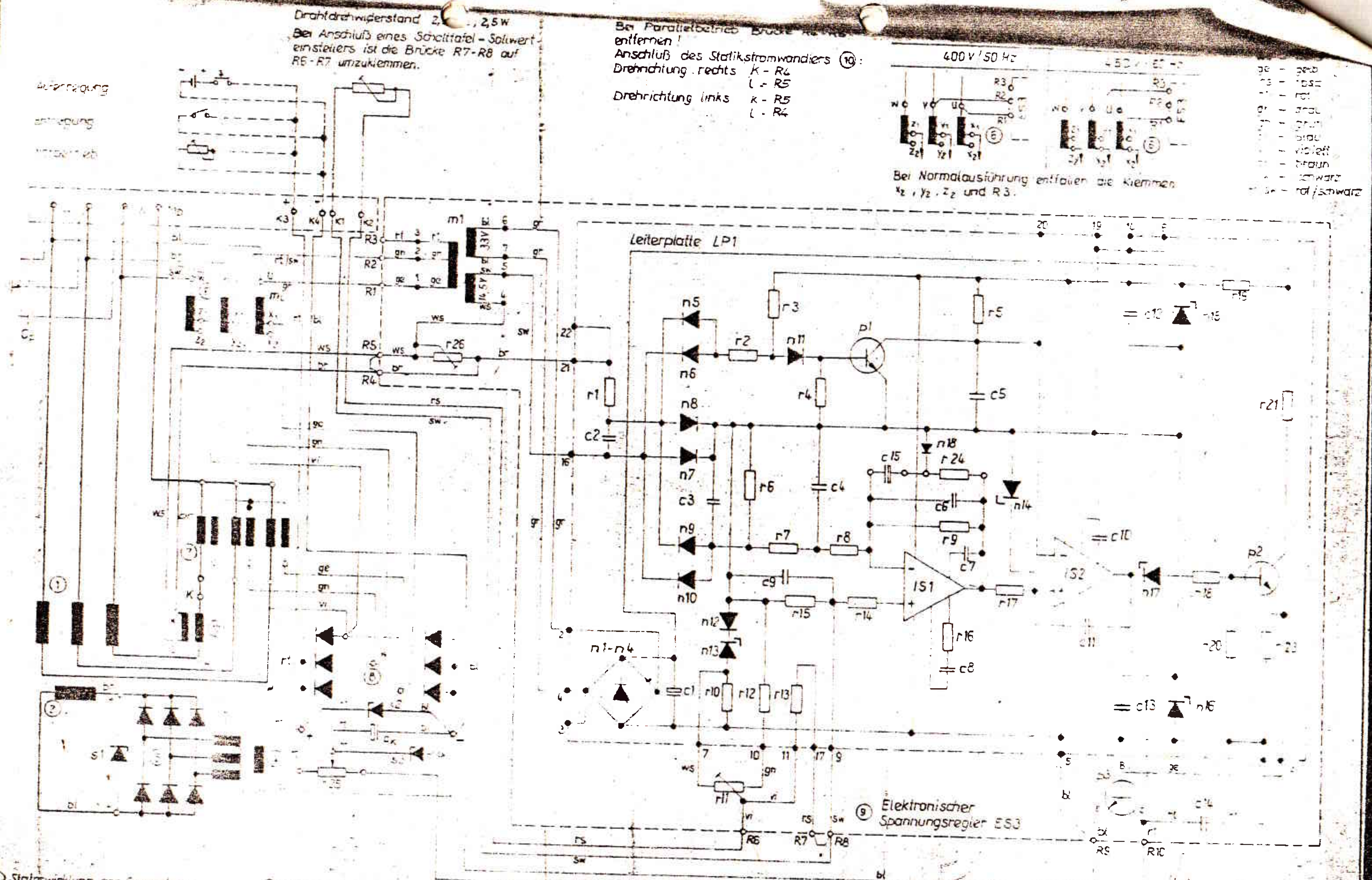
Offer No. 8888/80



① Statorwicklung des Generators
② Rotor- (Erreger-) Wicklung des Generators
③ Rotor- (Drehstrom-) Wicklung d. Erregermaschine
④ Stator- (Erreger-) Wicklung der Erregermaschine
⑤ Gleichrichter, rotierend
⑥ Drossel für Leerlauferregung
⑦ Stromtransformator f. lastabhängige Erregung
⑧ Kompoundierungs-Gleichrichter
⑨ Regler
⑩ Statik-Stromwandler für Parallelbetrieb

m^1	Versorgungstransformator
r^{11}	Sollwerteinsteller
r^{25}	Absetzwiderstand
r^{26}	Statikeinstellwiderstand
SG	Sägezahngenerator
JS 1, JS 2	Integrierte Schaltkreise
p^3	Absetztransistor

	Prinzipschaltbild für bürstenlose Generatoren (Regler 3)	**097-002 : 112**



Drahtdrehwiderstand 2,… , 2,5 W
Bei Anschluß eines Schalttafel-Sollwerteinstellers ist die Brücke R7-R8 auf R6-R7 umzuklemmen.

Bei Parallelbetrieb Brücke R… -R… entfernen!
Anschluß des Statikstromwandlers ⑩:
Drehrichtung rechts K - R4
L - R5
Drehrichtung links K - R5
L - R4

Bei Normalausführung entfallen die Klemmen x_2, y_2, z_2 und R3.

⑨ Elektronischer Spannungsregler ES3

① Statorwicklung des Generators
② Rotor- (Erreger-) Wicklung des Generators
③ Rotor- (Drehstrom-) Wicklung d. Erregermasch.
④ Stator- (Erreger-) Wicklung d. Erregermasch.
⑤ Gleichrichter, rotierend

⑥ Drossel f. Leerlauferregung
⑦ Stromtransformator f. lastabhängige Erregung
⑧ Kompoundierungs-Gleichrichter
⑨ Regler
⑩ Statik-Stromwandler f. Parallelbetrieb

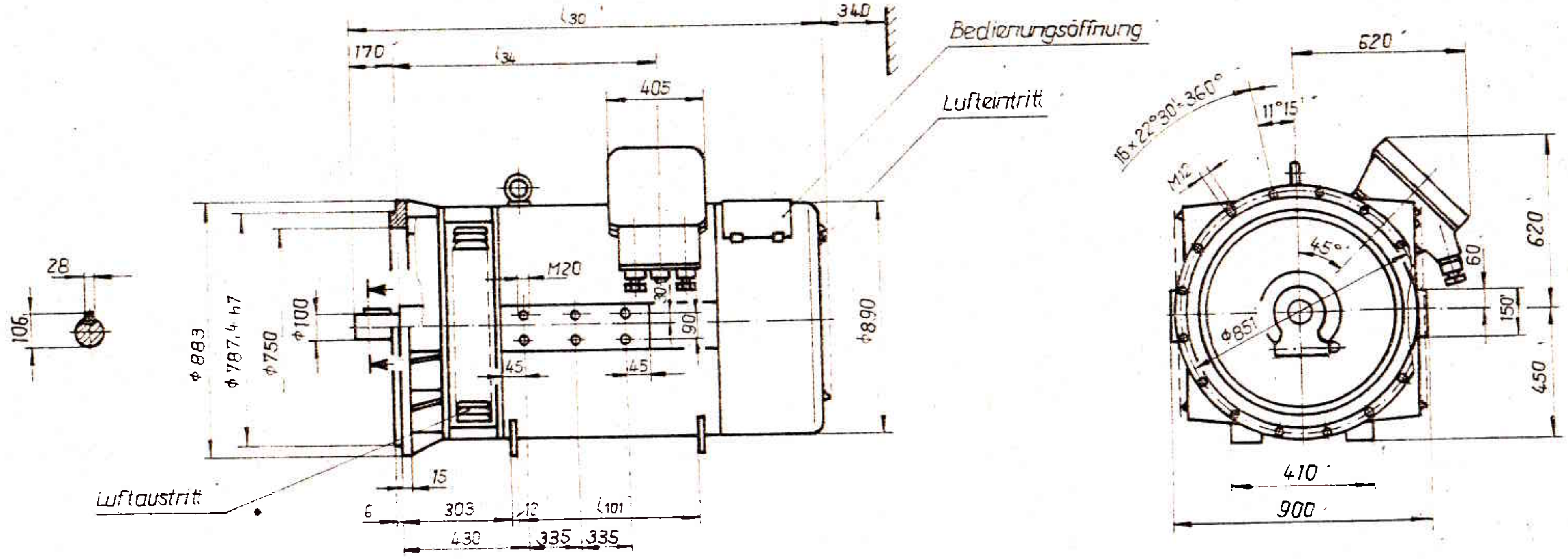
r11 Sollwerteinstellwiderstand
r25 Absetzwiderstand
r26 Statikeinstellwiderstand
s1, s2, s3 Überspannungsbegrenzer
cK Glättungskondensator

cF Funkentstörkondensatoren

VEB Elektromotorenwerk Dessau

Funktionsschaltplan für bürstenlose Generatoren

097-002:1083



Passungen: Wellenstumpf : m 6
Gegenstück : H 7

Baugröße	Kenngröße	Masse kg	l 30	l 34	l 101
3 SBEV 455-4	G	2820	1936	1156	1046
3 SBEV 456-4		3200	2056	1276	1166

VEB
Elektromotorenwerk
Dessau

Gez.: 11.12.78 Jahr.
Gepr.:
Ersatz für:
Ersetzt durch

Drehstrom - Synchrongenerator

bürstenlos
Flansch: SAE 00
Bauform: M 111 / 301 (B5 / B20) Schutzgrad: IP 23
Kühlsystem: IC 01

Zeichnungs-Nr.:
M 3 - 600

CARACTERISTICAS DEL RESORTE DE LA VALVULA DE ARRANQUE DEL PAPROTTKA.¿..

Ø alambre .... 3,0 mm

Ø mayor (esterior) ......50,4 mmm

Ø Interior ....44,4 mm

Largo total
natural .... 92,5 mm

espira (crestas) ________ 25,5 mm

NO TIRAR

RESORTE

VALVULA
ARANQUE T
PAPROTKA

ϕ Alambre — 3,0 mm.

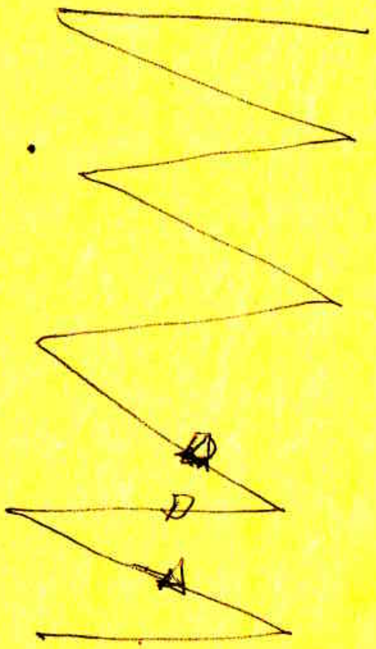
ϕ Mayor Ext. — 50,4 mm.

Largo total Natural — 92,5 mm.

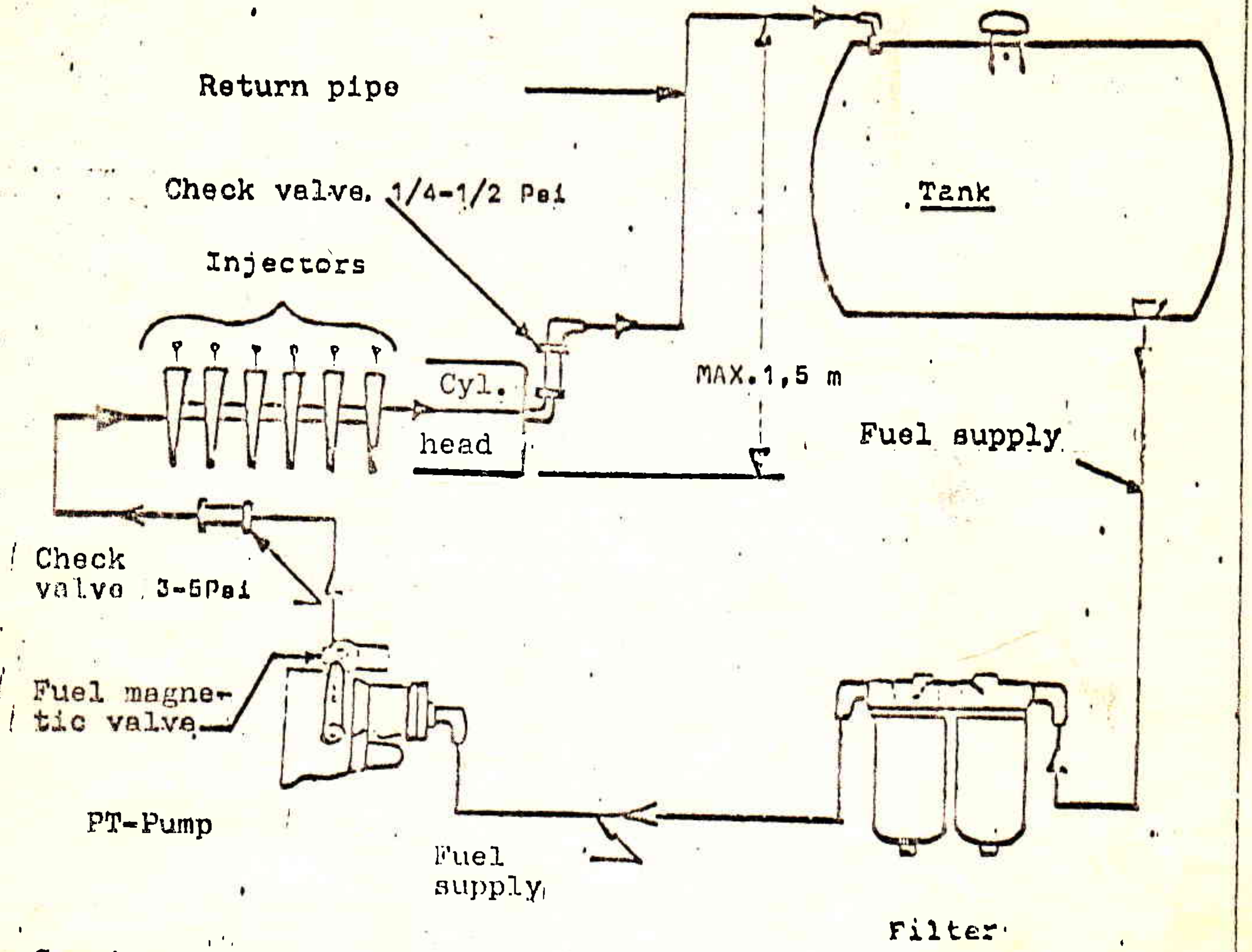
ϕ int — 44,4

ESPIRA — 25,5

805,3
1,2
16106
8053
965,36



ARRANGEMENT WITH CHECK VALVE



The Cummins gen-set-engines are equipped with check valves. This allows an arrangement of the fuel tank with a fuel level of

max. 1.5 m

above the cylinder head. In case the level is higher than 1.5 m by means of a high tank, a float tank becomes necessary.

Fuel pipe diameter and general declarations see page 2

FUEL SYSTEM OF CUMMINS
GEN-SET-ENGINES

GEBR. PAPROTTKA GMBH
HAMBURG

AGGREGATEBAU

	Date	Name	Scale	No.	BN 8888/81 KS	Page
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GENERAL DECLARATIONS

1) ARRANGEMENT OF RETURN PIPE

ALWAYS CONNECT RETURN PIPE AT THE TANK COVER ONLY! DO NOT INSTALL EXTENDED PIPE WITHIN TANK UP TO TANK BOTTOM.

2) FUEL MAGNETIC VALVE

DURING STAND STILL OF ENGINE, THE VALVE SHOULD NOT BE ENERGIZED, I.E. IT MUST BE WITHOUT VOLTAGE.

3) DEEPSEATED TANK

THE MAX. SUCTION HEIGHT OF THE INTEGRATED GEAR WHEEL PUMP IS 1.8 m. AT DEEPER SEATED TANKS, AN ELECTRIC DRIVEN LIFTING PUMP, WHICH HAULS INTO A SEPARATE TANK (OR DAY TANK) BECOMES NECESSARY.

4) FUEL PIPE DIAMETER (INSIDE).

ENGINE	SUPPLY		RETURN	
	to 3 m	from 3 m	to 3 m	from 3 m
N/NT/NTA-855-G	13	13	1o	1o
KT/KTA-1150-G	13	17	1o	13
VT/VTA-1710-G	17	17	13	13
KT/KTA-2300-G	17	17	13	13

FUEL SYSTEM OF CUMMINS
GEN-SET-ENGINES

GEBR. PAPROTTKA GMBH
HAMBURG

AGGREGATEBAU

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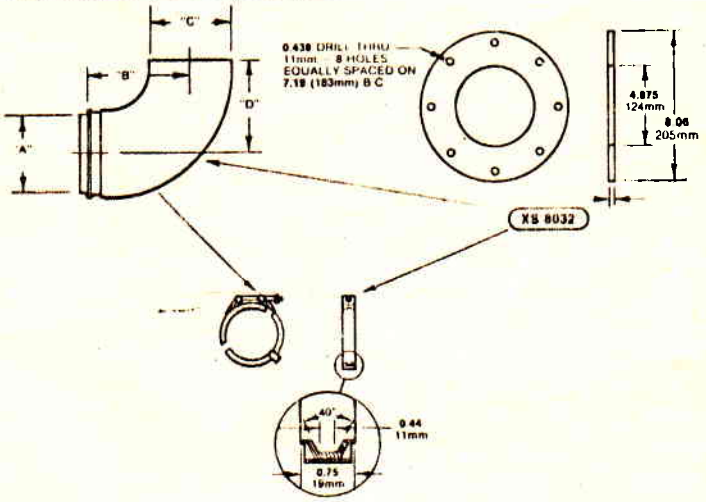
Gepr.:				
Norm				

No. BN 8888/81 KS

KT(A)-2300/3067-G/GS/GC

EXHAUST SYSTEM ACCESSORIES

OPTION	"A"	"B"	"C"	"D"
XS 8015	5.25 133mm	6.25 159mm	5.0 127mm	5.5 140mm
XS 8039	6.50 165mm	7.25 184mm	6.0 152mm	6.50 165mm



GEBR. PAPROTTKA GMBH
HAMBURG

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ISSUED	REVISIONS			PAGE
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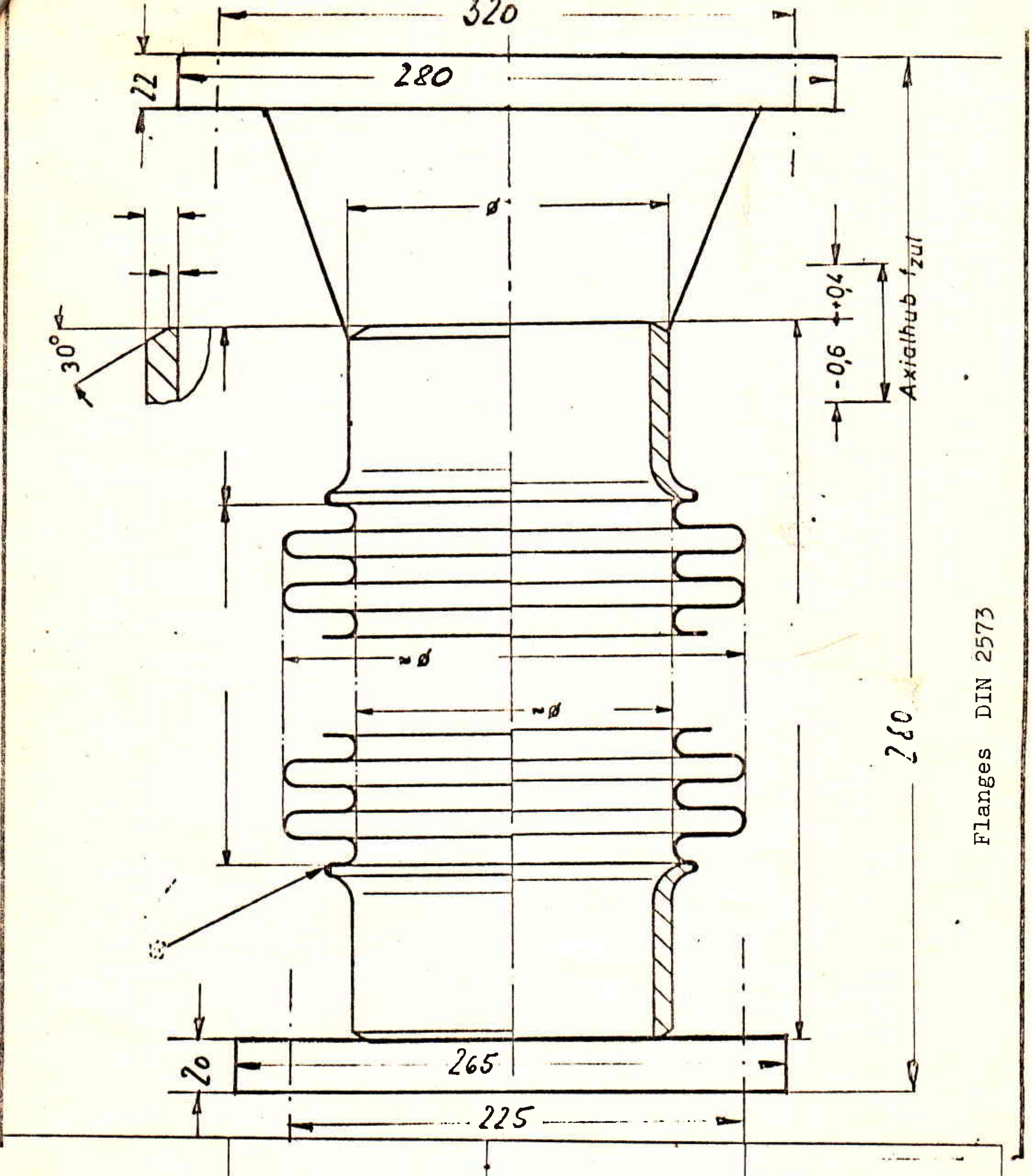

EXHAUST COMPENSATOR
TYPE KSO 6.25.150

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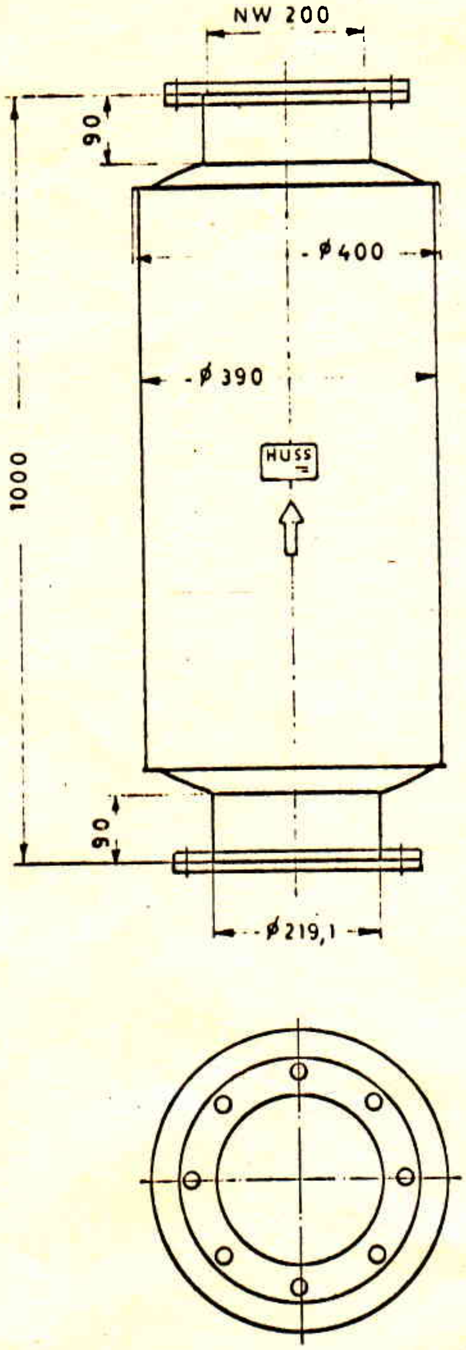

EXHAUST SILENCER
TYPE MU-200

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Norm.:		

Scale

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